

Beamline 8-BM / IMMW-CAT

Scientific focus: Macromolecular crystallography

Scientific programs: Large-unit-cell, high-resolution, and MAD macromolecular crystallography

Optics & Optical Performance

- 6.5–14.7 keV energy range
- focused beam size 500 μm hor. x 300 μm vert.
- vertically deflecting collimator mirror
meridional cylinder
Rh surface
- Oxford double-crystal monochromator
sagittally focused
Si(111) cut crystals
- Oxford-Seso vertical focusing mirror

Experiment Stations

8-BM-A

- white beam first optics enclosure

8-BM-B

- monochromatic beam station
- macromolecular crystallography

Detectors

- ADC Q315
- 6k x 6k (nine cell) CCD

Beamline Controls and Data Acquisition

- beamline controls: Console (Windows based)
- Blue Ice

Beamline Support Equipment/Facilities

- goniometer detector support: Larry Rock A-frame
- Huber 515 kappa goniometer
- Oxford cryojet cryosystem

Bending Magnet Source Characteristics (nominal)

source	APS bending magnet
critical energy	19.51 keV
on-axis peak brilliance at 16.3 keV	2.9×10^{15} ph/sec/mrad 2 /mm 2 /0.1%bw
on-axis peak angular flux at 16.3 keV	9.6×10^{13} ph/sec/mrad 2 /0.1%bw
on-axis peak horizontal angular flux at 5.6 keV	1.6×10^{13} ph/sec/mradh/0.1%bw
source size at critical energy \sum_x \sum_y	145 μm 36 μm
source divergence at critical energy $\sum_{x'}$ $\sum_{y'}$	6 mrad 47 μrad